UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,062	12/28/2000	Paul E. McKenney	BEA9-2000-0013-US1	9320

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EXAMINER
HUYNH, KIM T

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/753,062	MCKENNEY ET AL.
Office Action Summary	Examiner	Art Unit
	Kim T. Huynh	2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 February 2004</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-31</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-31</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 December 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

2.   Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Jackson

et al. (US Patent 6,473,819)

As per claims 1, 13, 22 , Jackson discloses a method for efficiently handling high

contention locking in a multiprocessor computer system, comprising:

- Organizing at least some of the processors into a hierarchy; (col.4, line 51-

  col.5, line 51)

- Providing a lock selected from the group consisting of an interruptible lock,

  (col.3, lines 25-53) and a lock which waits using only local memory; and

  (col.5, lines 23-51)

- Processing the lock responsive to the hierarchy. (col.6, lines 15-30)

As per claims 2, 14, 25, Jackson discloses wherein the processing step

conditionally acquires the lock. (col.9, lines 20-25), (col.2, lines 12-28)

As per claims 3, 15, 26, Jackson discloses wherein the processing step returns a failure to grant the lock if the lock is not immediately available. (col.1, lines 49-38), wherein by default not available not grant)

As per claims 4, 16, 27, Jackson discloses wherein the processing step unconditionally acquires the lock. (col.6, lines 27-30)

As per claims 5, 17, 28, Jackson discloses wherein the processing step spins on the lock until the lock is available. (col.6, lines 27-30)

As per claims 6, 18, Jackson discloses the method further comprising allowing system interrupts while spinning on the lock. (col.3, lines 45-48)

As per claims 7, 19, 29, Jackson discloses wherein the processing step unconditionally releases the lock. (col.6, lines 27-30)

As per claim 8, Jackson discloses wherein the processing step the processors spin on private memory. (col.5, lines 42-51)

As per claim 9, Jackson discloses wherein the hierarchy includes a data structure having a bit mask indicating which processors of a group are waiting for the lock. (col.6, lines 15-30)

As per claim 10, Jackson discloses wherein the hierarchy includes a data structure having a bit mask indicating which groups of processors have processors waiting for the lock. (col.5, lines 28-41)

As per claims 11, 20, 30, Jackson discloses the method further comprising maintaining a release flag for a group of processors to prevent races between

acquisition and release of the lock (col.6, lines 15-30), (col.7, line 60-col.8, line

15)

As per claims 12, 21, 31, Jackson discloses the method further comprising

maintaining a handoff flag for a group of processors to grant the lock to a

processor requesting an unconditional lock from a processor requesting a

conditional lock. (col.8,line 36-col.9,line 36)

As per claim 23, wherein the medium is a recordable data storage medium.

(col.3, lines 20-44), wherein queue locks performing as data information storage.

As per claim 24, Jackson discloses wherein the medium is a modulated carrier

signal. (col.3, lines 20-44, wherein signals to/from system should be

modulated/demodulated as for communicating within system.)

Response to Amendment

3.   Applicant's arguments filed on 2/5/04 have been fully considered but are moot in

view of the new ground(s) of rejection.

a. In response to applicant's argument that Jippo does not teach or suggest

interruptible lock. However, Jackson's system introduces a novel methodology of

implementing queue locks that allows for interuptability from external interrupts while

eliminating any dedlock conditions. Permitting the computation agent that has been

given ownership of a lock to be able to relinquish ownership to another waiting

computation agent when an intervening interrupt is encountered. (col.3, lines 25-59)

Thus, the prior art teaches the invention as claimed and do not distinguish over the prior

art as applied.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to

[kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM- 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark

Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The

fax phone numbers for the organization where this application or proceeding is assigned are (703)872-

9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be

directed to the receptionist whose telephone number is (703)306-5631.

Kim Huynh

April 14, 2004

Khanh Dang
Primary Examiner